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**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/010,490 01/21/98 HATA

K 177/527415

EXAMINER

QM32/1010

WENDEROTH LIND AND PONACK  
2033 K STREET N W  
SUITE 800  
WASHINGTON DC 20006

SMITH, S

ART UNIT

PAPER NUMBER

3729

DATE MAILED:

10/10/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/010,490

Applicant(s)  
Hata, Yoshida

Examiner  
Smith

Group Art Unit  
3729



☒ Responsive to communication(s) filed on Jul 30, 2001

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 8-11, 13-15, and 18-28 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 8-11, 13-15, and 18-28 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☒ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Claim Rejections - 35 U.S.C. § 112*

1. *The following is a quotation of the second paragraph of 35 U.S.C. 112:*

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

2. *Claims 8-15 and 18-19 are rejected under 35 U.S.C. 112, second paragraph, is hereby withdrawn.*

### *Claim Rejections - 35 U.S.C. § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-11, 13-15, 18- 25, 27 and 28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dornes in view of JP 63178596.

Regarding claims 8, 18,19, 24, Dornes et al. discloses a component mounting apparatus comprising; a pair component supply tables (42,44) on which components (56,56') are accommodated and which are arranged on opposites sides of a board mounting station where a board (8) is positioned; a first mounting head section (38) for successively picking up the

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components at one of the components supply tables (column 4 ln 6-12) and thereafter successively mounting the picked-up component onto the board (column 4 ln 14-18); a second insertion head (40) for successively picking up the components at the other supply table and thereafter successively mounting the picked-up component onto the board. Dornes fails to show the mounting head movable in a direction perpendicular to the direction of the other mounting head with a plurality of nozzles. JP-6178596 discloses a mounting apparatus having a plurality of nozzles (31), movable in a first and second direction on rails (17, 24) to pick-up components from different supply tables Fig 7.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Dornes and JP 63178596 to enable the mounting heads to be independently movable between separate workstation wherein the direction of the mounting heads are in opposite direction relative to one another. The mounting station of JP 63178596 discloses the independent movement of the mounting head to carry out the work, the work efficiency can be improved without the increase movement of speed but rather having the mounting head work independently.

Regarding claim 9, where Dornes is relied upon as above, JP 63178596 discloses the first, second, third and fourth direction of the mounting head are moveable in two directions perpendicular to each other Fig 7.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of JP 63178596 to enable the mounting heads to move in a

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direction equal or different from one another wherein the direction are movable in a X,Y axis on opposites sides of the station to receive components

Regarding claims 10 and 11, Dornes et al discloses controller (49) for mutually controlling the first and second mounting head section in accordance with the timing at which, when one of the first and second mounting head section carries out a component picking up operation for picking up the component from the component supply table, the other of the first and second mounting head operation for mounting the pickup component onto the board.

Regarding claims 13 -15, Dornes discloses a mounting apparatus.. JP 63178596 discloses a component mounting apparatus having suction nozzles (17) JP 403030499 fails to show the first and second mounting heads (13) having a plurality of suction nozzles (31) for sucking the components on at a time components prior to be mounted.

It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the mounting apparatus of Dornes and JP 63178596 to provide the first and second mounting head section with nozzles to pick up the component from the supply table and insert each component into the board in order to realize the benefits thereof. It would be obvious to one of ordinary skill in the art that the components would be pick-up prior to be mounted on the board.

Regarding claims 20,21 and 27, where Dornes and JP 63178596 is relied upon as above for disclosing a mounting apparatus. It would have been deemed a matter of design choice as to

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the components being mounted since the components solve no stated patentable feature as to the apparatus and it would have been obvious to select components having different configuration on the supply tables based on the operation at hand.

Regarding claims 22, 23 and 28, where Dornes and JP 63178596 is relied upon as above for disclosing a mounting apparatus, both Dornes and JP 63178596 discloses a controller for controlling the operation of the components. The controller would have been obvious to one of ordinary skill in the art at the time of the invention was made to perform a continuous operation.

Claims 25 and 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dornes and JP 63178596 in view of (Applicants Admitted Prior Art).

Regarding claim 25, where Dornes is relied upon as above, Dornes fails to disclose the board positioning. JP 63178596 discloses the board comes to a halt during the mounting sequence (page 4 ln 22-28).

It would have been obvious to one of ordinary skill in the art to enable a control system to halt the board movement to select a component from the table and fix the components to the board during the mounting sequence based on the two supply tables, since each mounting head are driven independent.

Regarding claim 26, where Dornes and JP 63178596 are relied upon as above for disclosing a mounting apparatus. Dornes and JP 63178596 fail to disclose the type of head used

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for picking up components. (AAPA) discloses the mounting head rotatable having suction heads (page 3 ln 6-22).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to design a rotatable work head that could pick up continuous components after the first nozzle has pick-up a first component.

### ***Response to Arguments***

5. Applicant's arguments filed 7/30/01 have been fully considered but they are not persuasive. The applicant has argued that the JP 596' reference does not teach the plurality of pick-up nozzles for picking up components. JP 596' discloses mounting head (13), these work heads move up and down in accordance with the CPU to execute a required work for mounting components and placing them on the PCB the applicant has argued that the first and second mounting heads are independently movable between the supply tables but has not provided which mounting head is in accordance with the movement. According to JP 596' which has plurality of mounting heads are independently movable. The first and second mounting heads are capable of moving the first mounting head to the first table and placing the component on the PCB, while the second mounting head moves to the second supply table to mount the component on the board, since JP 596' discloses the board are independently movable. The applicant has argued that the Dornes reference only provides a teaching of picking up a single component. The applicant is referred to paragraph #3 of this office action which incorporates JP 596' to discloses



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a mounting head section that has a plurality of nozzle (31) to speed up production in Fig 2. The applicant arguments are directed to the Dornes reference for mounting components. The combination of Dornes and JP 596' was made to teach the use of multiple nozzles to mount and transfer the components to the PCB. The examiner has determined the combination of Dornes and JP 596' would teach one of ordinary skill to have a mounting head section as in Fig 2 of JP 596 with a plurality of nozzles (31) to move around the supply tables and the PCB to successively pick-up and mount components.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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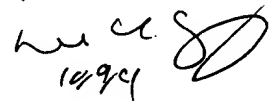
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication should be directed to Sean Smith at telephone number (703) 305-0831.

S.S.

January 5, 1999

Handwritten signature of Lee Young, dated 1/4/99.

LEE YOUNG  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700